Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) In a transmission system for transmitting simultaneously at a global transmission power, corresponding to a global quality factor on reception, a set of various multiplexed services having specific predetermined error rate requirements matching individual quality factors achievable with adequately adjusted current individual transmission powers, a method of resource optimization comprising:

a step of balancing said current individual transmission powers with respect to an estimate, for a given service, of a difference between the specific predetermined error rate requirement and a measured current error rate; ~~and~~

a step of determining from a reference performance curve estimates of the individual quality factors matching the corresponding specific predetermined error rate requirements, for deriving initial rate matching parameters and for transmitting said initial rate matching parameters to an emitting entity;

a step of transmitting said initial rate matching parameters from a receiving entity to an emitting entity;

a step of measuring the current error rates of given services and the corresponding global quality factor for deriving extrapolated updates of said reference performance curve;

a step of deriving from the extrapolated updates, intermediate global quality factor estimates and corresponding required individual quality factors matching the specific predetermined error rate requirements of said given services; and

a step of adapting the rate matching parameters based on the required individual quality factors in response to a difference detected between the intermediate global quality factor estimates for any two services.

2. (original) A method as claimed in claim 1, wherein the step of balancing the current individual transmission powers includes dynamically adapting rate matching parameters associated to the services, which are related to a number of bits to be repeated or punctured during transmission of said services.

3. (currently amended) A method as claimed in claim 2, wherein the transmission system comprises at least ~~an~~ the emitting entity and ~~a~~ the receiving entity enabled to communicate via said set of various multiplexed services, the method on the receiving side comprising:

~~a step of deriving initial rate matching parameters from the determined estimates of the individual quality factors,~~

~~a step of transmitting said initial rate matching parameters to the emitting entity,~~

~~a step of measuring the current error rates of given services and the corresponding global quality factor for deriving extrapolated updates of said reference performance curve,~~

~~a step of deriving from said updates, intermediate global quality factor estimates and corresponding required individual quality factors matching the specific predetermined error rate requirements of said given services,~~

~~if said intermediate global quality factor estimates are different for any two services, a step of adapting the rate matching parameters on the basis of the required individual quality factors derived by the previous step,~~

~~if the current error rates meet said specific predetermined error rate requirements for a common intermediate global quality factor estimate, a final~~ a step of storing the current rate matching ~~parameters,~~ parameters in response to the current error rates meeting the specific predetermined error rate requirements for a common intermediate global quality factor estimate; and

a step of looping back to the step of measuring current error rate and the corresponding global quality factor.

4. (currently amended) In a transmission system for transmitting simultaneously, at a global transmission power, a set of various multiplexed services comprising a set of

transport data blocks of various predetermined sizes for transporting block-coded data on specific transport channels having specific predetermined error rate requirements associated to quality factors, which necessitate adequately adjusted current individual transmission powers, a method of resource optimization including:

a step of balancing said current individual transmission powers with respect to the predetermined sizes of said transport data blocks, wherein said step of balancing said current individual transmission powers includes a step of determining from a reference performance curve estimates of the individual quality factors matching the corresponding specific predetermined error rate requirements, for deriving initial rate matching parameters and for transmitting said initial rate matching parameters to an emitting entity;

a step of transmitting said initial rate matching parameters from a receiving entity to an emitting entity;

a step of measuring the current error rates of given services and the corresponding global quality factor for deriving extrapolated updates of said reference performance curve;

a step of deriving from the extrapolated updates, intermediate global quality factor estimates and corresponding required individual quality factors matching the specific predetermined error rate requirements of said given services; and

a step of adapting the rate matching parameters based on the required individual quality factors in response to a difference detected between the intermediate global quality factor estimates for any two services.

5. (original) A method as claimed in claim 4, wherein the step of balancing the current individual transmission powers includes a step of dynamically adapting at code block size change rate matching parameters associated to the services, which are related to a number of bits to be repeated or punctured during transmission of said services.

6. (original) A method as claimed in claim 5, wherein the step of dynamically adapting at code block size change rate matching parameters associated to the services includes a preliminary step of determining groups within the set of transport data blocks, a same group comprising transport data blocks associated to quality factors, which may

differ only within a predefined range, and a step of computing the rate matching parameters with respect to a predefined rule corresponding to the associated quality factor of the group.

7. (canceled)

8. (currently amended) A transmission system comprising an emitting entity and a receiving entity for transmitting simultaneously at a global transmission power a set of various multiplexed services having specific predetermined error rate requirements matching quality factors achievable with adequately adjusted current individual transmission powers, the transmission system comprising resource optimization means including:

means of balancing said current individual transmission powers with respect to an estimate, for a given service, of a difference between said specific predetermined error rate requirement and a measured current error rate; ~~and~~

means for determining from a reference performance curve estimates of the individual quality factors matching the corresponding specific predetermined error rate requirements, for deriving initial rate matching parameters and for transmitting said initial rate matching parameters to the emitting entity;

means for transmitting said initial rate matching parameters to the emitting entity;

means of measuring the current error rates of given services and the corresponding global quality factor for deriving extrapolated updates of said reference performance curve;

means of deriving from the extrapolated updates, intermediate global quality factor estimates and corresponding required individual quality factors matching the specific predetermined error rate requirements of said given services; and

means of adapting the rate matching parameters based on the required individual quality factors in response to a difference detected between the intermediate global quality factor estimates for any two services.

9. (currently amended) In a transmission system comprising an emitting entity and a receiving entity for transmitting simultaneously at a global transmission power a set of various multiplexed services having specific predetermined error rate requirements matching quality factors achievable with adequately adjusted current individual transmission powers, the receiving entity comprising resource optimization means including:

means of balancing said current individual transmission powers with respect to an estimation, for a given service, of a difference between said specific predetermined error rate requirement and a measured current error rate; ~~and~~

means for determining from a reference performance curve estimates of the individual quality factors matching the corresponding specific predetermined error rate requirements, for deriving initial rate matching parameters and for transmitting said initial rate matching parameters to the emitting entity;

means for transmitting said initial rate matching parameters to the emitting entity,

means of measuring the current error rates of given services and the corresponding global quality factor for deriving extrapolated updates of said reference performance curve;

means of deriving from the extrapolated updates, intermediate global quality factor estimates and corresponding required individual quality factors matching the specific predetermined error rate requirements of said given services; and

means of adapting the rate matching parameters based on the required individual quality factors in response to a difference detected between the intermediate global quality factor estimates for any two services.

10. (original) A computer program product for a receiver computing a set of instructions, which when loaded into the receiver, causes the receiver to carry out the method as claimed in claim 1 or 4.

11. (currently amended) A method as claimed in claim 4, wherein the transmission system comprises at least ~~an~~ the emitting entity and ~~a~~ the receiving entity enabled to

communicate via said set of various multiplexed services, the method on the receiving side comprising:

~~a step of deriving initial rate matching parameters from the determined estimates of the individual quality factors,~~

~~a step of transmitting said initial rate matching parameters to the emitting entity,~~

~~a step of measuring the current error rates of given services and the corresponding global quality factor for deriving extrapolated updates of said reference performance curve,~~

~~a step of deriving from said updates, intermediate global quality factor estimates and corresponding required individual quality factors matching the specific predetermined error rate requirements of said given services,~~

~~if said intermediate global quality factor estimates are different for any two services, a step of adapting the rate matching parameters on the basis of the required individual quality factors derived by the previous step, and~~

~~if the current error rates meet said specific predetermined error rate requirements for a common intermediate global quality factor estimate, a final~~ a step of storing the current rate matching ~~parameters,~~ parameters in response to the current error rates meeting the specific predetermined error rate requirements for a common intermediate global quality factor estimate; and

a step of looping back to the step of measuring current error rate and the corresponding global quality factor.

12. (currently amended) A transmission system as claimed in claim 8, wherein the transmission system comprises at least ~~an~~ the emitting entity and ~~a~~ the receiving entity enabled to communicate via said set of various multiplexed services, the transmission system comprising:

~~means for deriving initial rate matching parameters from the determined estimates of the individual quality factors,~~

~~means for transmitting said initial rate matching parameters to the emitting entity,~~

~~means for measuring the current error rates of given services and the corresponding global quality factor for deriving extrapolated updates of said reference performance curve,~~

~~means for deriving from said updates, intermediate global quality factor estimates and corresponding required individual quality factors matching the specific predetermined error rate requirements of said given services,~~

~~if said intermediate global quality factor estimates are different for any two services, means for adapting the rate matching parameters on the basis of the required individual quality factors derived by the previous step, and~~

~~if the current error rates meet said specific predetermined error rate requirements for a common intermediate global quality factor estimate,~~ means for storing the current rate matching ~~parameters, a step of~~ parameters in response to the current error rates meeting the specific predetermined error rate requirements for a common intermediate global quality factor estimate; and

means for looping back to the step of measuring current error rate and the corresponding global quality factor.

13. (currently amended) A receiving entity as claimed in claim 9, the receiving entity enabled to communicate via said set of various multiplexed services, the receiving entity comprising:

~~means for deriving initial rate matching parameters from the determined estimates of the individual quality factors,~~

~~means for transmitting said initial rate matching parameters to the emitting entity,~~

~~means for measuring the current error rates of given services and the corresponding global quality factor for deriving extrapolated updates of said reference performance curve,~~

~~means for deriving from said updates, intermediate global quality factor estimates and corresponding required individual quality factors matching the specific predetermined error rate requirements of said given services,~~

~~if said intermediate global quality factor estimates are different for any two services, means for adapting the rate matching parameters on the basis of the required individual quality factors derived by the previous step, and~~

~~if the current error rates meet said specific predetermined error rate requirements for a common intermediate global quality factor estimate,~~ means for storing the current rate matching ~~parameters, a step of~~ parameters in response to the current error rates meeting the specific predetermined error rate requirements for a common intermediate global quality factor estimate; and

means for looping back to the step of measuring current error rate and the corresponding global quality factor.

14. (currently amended) A computer program product as claimed in claim 10, further comprising additional instructions, which when loaded into the transmission system, causes ~~an~~ the emitting entity and ~~a~~ the receiving entity to communicate via said set of various multiplexed services, the additional instructions further causing:

~~a step of deriving initial rate matching parameters from the determined estimates of the individual quality factors,~~

~~a step for transmitting said initial rate matching parameters to the emitting entity,~~

~~a step of measuring the current error rates of given services and the corresponding global quality factor for deriving extrapolated updates of said reference performance curve,~~

~~a step of deriving from said updates, intermediate global quality factor estimates and corresponding required individual quality factors matching the specific predetermined error rate requirements of said given services,~~

~~if said intermediate global quality factor estimates are different for any two services, a step of adapting the rate matching parameters on the basis of the required individual quality factors derived by the previous step, and~~

~~if the current error rates meet said specific predetermined error rate requirements for a common intermediate global quality factor estimate, a final~~ a step of storing the current rate matching ~~parameters,~~ parameters in response to the current error rates

meeting the specific predetermined error rate requirements for a common intermediate global quality factor estimate; and

a step of looping back to the step of measuring current error rate and the corresponding global quality factor.